RMIT UNIVERSITY

Programming 1 (COSC 2231)

ASSIGNMENT 2

Cover Sheet

HAND OUT DATE: **12 SEPTEMBER 2011**

HAND IN DATE: **26 SEPTEMBER 2011**

WEIGHTAGE: **10%**

INTAKE: **JULY 2011**

Instructions to student:

- This is an individual assignment.
- Complete this cover sheet and attach it to your assignment – this should be your first page!

Student declaration:	
I declare that: ▪ ***I understand what is meant by plagiarism*** ▪ ***The implication of plagiarism have been explained to me by our lecturer*** ***This assignment is my own work.***	
Name	**Student ID**

Assignment 2 - Covers materials from chapters 1 to 6

Introduction

Write a Java program which allows user to roll a number of dices and outputs the numbers rolled, number of times for each number is rolled and the numbers rolled at maximum time. This assignment involves the use of classes, arrays of objects, loops and methods.

TestRollDice Class

Create a class called TestRollDice.java which serves as the main class. This class will first prompt the user for number of dices to be rolled. You will create an array based on this information. The program rolls the user specified number of dices, outputs the numbers rolled, number of times for each number is rolled and the numbers rolled at maximum time.

The TestRollDice class shall include the following options:

1. Display numbers rolled
2. Display number of time for each number is rolled
3. Display numbers rolled at maximum time
4. Exit program

RollDice Class

Create a class called RollDice.java to roll a die. This class contains the following;

a) class attributes num //stores the number rolled by a dice

b) public RollDice()
//Default constructor. Sets the default number rolled by a die to 1

c) public int roll()
/*Method to roll a dice. This method uses a random number generator to randomly generate a number between 1 and 6, and stores the number in the instance variable num and returns the number */

d) public double getNum()
/*Method to return the number on the top face of the dice. Returns the value of the instance variable num.*/

Sample Output:

```
Enter number of dices to be rolled : 87

Choose an option :
1. Display numbers rolled
2. Display number of time for each number is rolled
3. Display numbers rolled at maximum time
4. Exit program

Enter Option: 1

Numbers rolled :
 4 1 2 5 3 5 3 6 4 2
 1 2 1 4 2 5 6 3 1 6
 4 3 4 5 3 5 2 5 2 5
 6 5 5 3 4 3 5 6 3 2
 5 2 6 2 4 2 6 5 2 5
 1 3 4 6 2 2 4 3 4 6
 6 5 5 5 1 1 6 5 6 2
 3 2 3 6 4 3 2 3 6 4
 2 3 2 6 4 3 4

Choose an option :
1. Display numbers rolled
2. Display number of time for each number is rolled
3. Display numbers rolled at maximum time
4. Exit program

Enter Option: 2

Num     Roll_Count
 1          7
 2          18
 3          16
 4          14
 5          17
 6          15

Choose an option :
1. Display numbers rolled
2. Display number of time for each number is rolled
3. Display numbers rolled at maximum time
4. Exit program
```

```
Enter Option: 3

The numbers with maximum rolls :  2

Choose an option :
1. Display numbers rolled
2. Display number of time for each number is rolled
3. Display numbers rolled at maximum time
4. Exit program

Enter Option: 4

Thank you for using the system. Good bye.
```

What to Submit:
Submit printed copies of your Java source code, together with sample runs of your program. Your sample runs should show that the program works for different values of input. Make sure the submission includes the cover page (page 1 of this assignment) and should be properly stapled or bound.

Make sure you follow proper coding style as discussed in class. Make sure you use proper names for your variables. Make sure you indent the code appropriately. Comment the code where appropriate.

Marking Scheme:
Logic – 3 marks
Fulfilling requirements – 2 mark
Arrays – 2 marks
Appropriate use of classes and objects – 2 marks
Documentation & Screen Shots – 1 mark